

Abstract

A 3-D shape measurement apparatus for grasping the state of an object with ease and accuracy is provided. The 3-D shape measurement apparatus includes: a first 3-D sensor 10a having a projecting device 11 for projecting a light pattern on a target area, and a (first) image capturing apparatus 12a placed at a first interval d1 from the projecting device 11 to capture an image of the target area on which the light pattern is projected; a second 3-D sensor 10b having a projecting device 11, and a (second) image capturing apparatus 12b placed at a second interval d2 longer than the first interval d1 from the projecting device 11 to capture an image of the target area on which the light pattern is projected; 3-D information computing means 22 for obtaining external shape information on an object 2 based on the shift of the pattern on the image acquired with the first 3-D sensor 10a; variation information computing means 23 for obtaining variation information on the object 2 based on the shift of the pattern on the image acquired with the second 3-D sensor 10b; and information composing means 24 for composing the external shape information and the variation information.